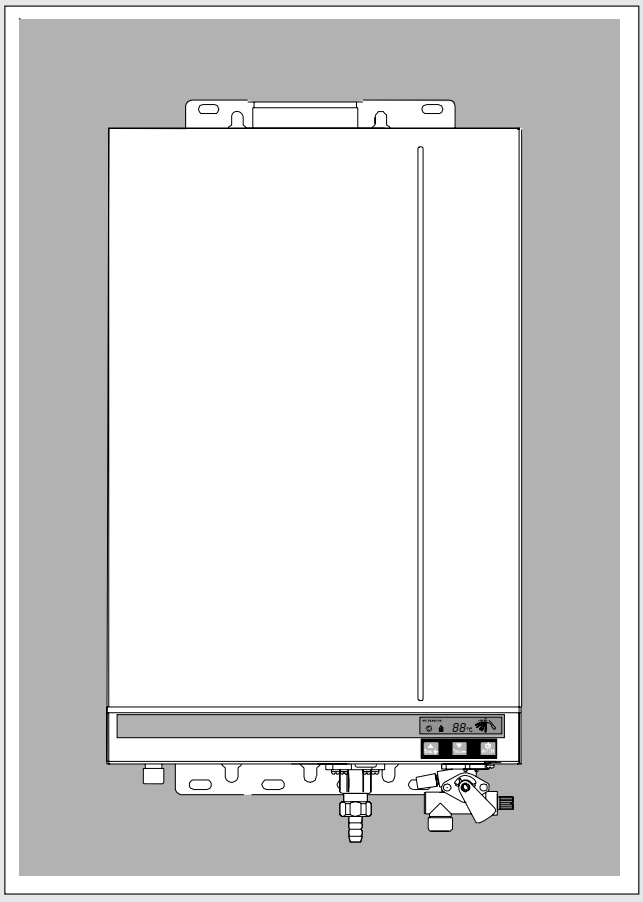
Unical®

IDRONIK TS 13

Instantaneous gas water heater, type C.



ISTRUCTIONS FOR INSTALLER, USER AND SERVICE MAN

00333639 - 2nd edition - 04/2011

Warning: this manual contains instructions to be used exclusively by the installer and/or a competent person in accordance with the current laws in force.
The end user MUST not make any alterations to the water heater.
Failure to follow the instructions indicated in this manual, which is supplied with the appliance, could cause injury to persons, animals or damage to property. UNICAL shall not be held liable for any injury and/or damage.

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1 GENERAL INFORMATION

1.1 - SYMBOLS USED IN THIS GUIDE

When reading this guide particular care has to be given to the parts marked with the following symbols:

DANGER!
Indicates serious danger for your personal safety and for your life

WARNING!
Indicates a potentially dangerous situation for the product and the environment

NOTE!
Suggestions for the user

1.2 - CORRECT USE OF THE APPLIANCE

The water heater IDRONIK has been designed utilizing today's technology and in compliance with the current safety regulations.However, following an improper use, dangers could arise for the safety and life of the user or of other people, or damage could be caused to the appliance or other objects.The appliance is designed for the domestic hot water production. Any other use of this appliance will be considered improper.UNICAL declines any responsibility for any damages or injuries caused by an improper use; in this case the risk is completely at the user's responsibility.In order to use the appliance according to the scopes it was designed for it is essential to carefully follow the instructions indicated in this guide.

1.3 - WATER TREATMENT

- The hardness of the mains water supply conditions the frequency with which the heat exchanger is cleaned.
- In hard water areas where the main water can exceed 15°f total hardness, a scale reducing device is recommended. The choice of this device has to be made taking into consideration the characteristics of the water.
- In order to improve the resistance to lime scale it is recommended to adjust the domestic hot water temperature as near as possible to the one you really require.
- We recommend you to check the state of cleanliness of the heat exchanger at the end of the first year and subsequently, on the basis of the lime scale found, this period can be extended to two years.

1.4 - INFORMATIONS TO BE HANDED OVER TO THE USER

The user has to be instructed on the use and operation of his D.H.W. system, in particular:

- Hand over these instructions to the end user, together with any other literature regarding this appliance, placed inside the envelope contained in the packaging. **The user has to keep these documents in a safe place in order to always have them at hand for future reference.**
- Inform the user on the importance of air openings and of the flue outlet system, stressing the fact that it is absolutely forbidden to make any alterations to the appliance.
- Inform the user how to adjust the correct water temperature in order to save energy.
- Remind the user that, in compliance with the rules in force, a comprehensive control and service of the appliancmust be performed in compliance with prescriptions and with the frequency indicated by the manufacturer.
- If the appliance is sold or transferred to another owner or if the present user moves home and leaves the appliance installed, ensure yourself that the manual always follows the appliance so that it can be consulted by the new owner and/or installer.

Failure to follow the instructions indicated in this guide, which is supplied with the appliance, could cause injury to persons, animals or damage to property. The manufacturer shall not be held liable for any such injury and/or damage.

1.5 - SAFETY WARNINGS

Warning!
The appliance must not be used by persons with limited capacities, physical, mental and sensory.
These persons must be previously instructed and watched during the operations of transition.

WARNING!
The installation, adjustment, and servicing of this appliance must be carried out by a competent person and installed in accordance with the current standards and regulations. Failure to correctly install this appliance could cause injury to persons, animals or damage to property. The manufacturer shall not be held liable for any injury and/or damage.

DANGER!
Servicing or repairs of the appliance must be carried out by UNICAL authorised service technicians; UNICAL recommends drawing up a service contract. Bad or irregular servicing could compromise the safe operation of the appliance, and could cause injury to persons, animals or damage to property for which UNICAL shall not be held liable.

Modifications to parts connected to the appliance
Do not carry out any modifications to the following parts:
- the boiler
- to the gas, air, water supply pipes and electrical current
- to the flue pipe, safety relief valve and its drainage pipe
- to the constructive components which influence the appliance's safe operation

WARNING!
When tightening or loosening the screw pipe connections, use only adequate fork spanners.
The improper use and/or the use of inadequate equipment can cause damages (for example water or gas leakages).

WARNING!
Indications for appliances operating with propane gas
Ensure yourself that before installing the appliance the gas tank has been purged.
For a correct purging of the tank contact the liquid gas supplier or a competent person who has been legally authorized.
If the tank has not been correctly purged problems could occur during ignition.
If this occurs contact the liquid gas tank's supplier.

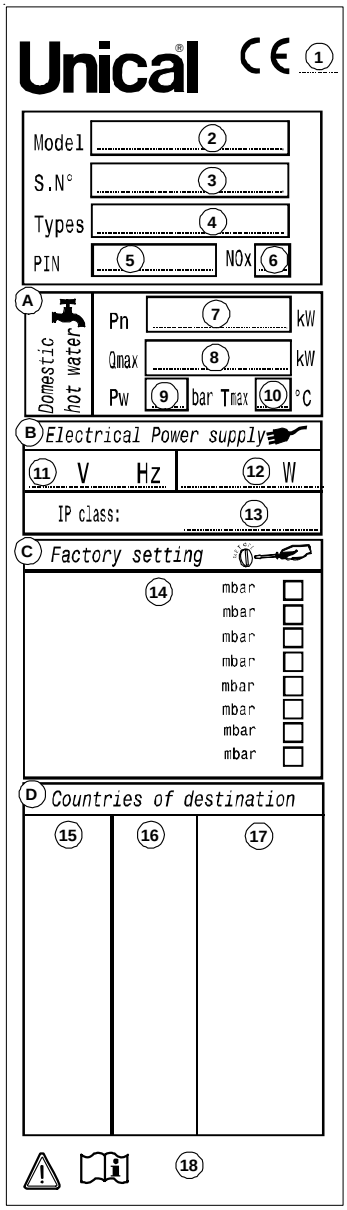
Smell of gas
If you smell gas follow these safety indications:
- Do not turn on or off electrical switches
- Do no smoke
- Do not use the telephone
- Close the main gas tap
- Open all windows and doors where the gas leakage has occurred
- Inform the gas society or a company specialized in installing and servicing heating systems

Explosive and easily inflammable substances
Do not use or leave explosive or easily inflammable material (as for example: petrol, paint, paper) in the room where the appliance has been installed.

1.6 - DATA BADGE

CE marking
The CE marking certifies that the appliance complies with:
- The essential safety requirements of the relevant gas appliances directive 2009/142/EC.

The label is positioned on the external part of the frontal shell (to the left side).



KEY:
1 = CE surveillance Notified Body
2 = Appliance model
3 = (S.N°) Serial Number

4 = Approved smoke evacuation types
5 = P.I.N. Product Identification Number
6 = (NOx) NOx class

A = Features of the D.H.W. circuit
7 = (Pn) Nominal Output
8 = (Qmax) Nominal max. input
9 = (PW) Max. D.H.W. Working Pressure
10 = (T max) Max. D.H.W. Working Temperature

B = Electrical Data
11 = Electrical supply
12 = Electrical consumption
13 = Protection degree

C = Factory settings
14 = Adjusted for gas type X

D = Destination countries
15 = Direct and indirect destination countries
16 = Gas category
17 = Feeding pressure

18 = Space for national marks

1.7 - GENERAL WARNINGS

This instruction manual is an integral and indispensable part of the product and must be retained by the user.

Please read carefully the instructions contained in this manual as they provide important indications regarding the safe installation, use and servicing of this appliance.

Keep this manual in a safe place for future reference.

The installation and servicing must be carried out in accordance with the regulations in force according to the manufacturer's instructions and by legally competent authorized persons.
The installations for the domestic hot water production MUST be build, in their entirety, with materials (taps, pipes, fittings, etc.) approved for drinkable water.

By a competent person, we imply a person who has a specific technical qualification in the field of components for central heating systems for domestic use, domestic hot water production and servicing.The person must have the qualifications foreseen by the current laws in force.

A wrong installation or a bad servicing could cause injury to persons, animals or damage to property. The manufacturer shall not be held liable for any such injury and/or damage.

Before carrying out any cleaning or servicing turn off the electrical supply to the boiler by means of the ON/OFF switch and/or by means of the appropriate shutdown devices.

Do not obstruct the intake/outlet terminal ducts.

In the event of failure and/or faulty functioning of the appliance, switch off the appliance. Do not attempt to make any repairs: contact qualified technicians.

Any repairs must be carried out by Unical authorized technicians and using only original spare parts. Non-observance of the above requirement may jeopardize the safety of the appliance and cause the expiring of the guarantee.

To guarantee the efficiency and correct functioning of the appliance it is indispensable to have the appliance serviced annually by a qualified person.

If the water heater remains unused for long periods, ensure that any dangerous parts are rendered innocuous.

Before putting again into service an appliance which has been unused for a certain time, proceed to rinse the domestic hot water circuit, making the water flowing for the time necessary to draw the full content of the domestic circuit.

If the appliance is sold or transferred to another owner or if the present user moves home and leaves the appliance installed, ensure yourself that the manual always follows the appliance so that it can be consulted by the new owner and/or installer.

Only original accessories must be used for all appliances supplied with optionals or kits (including electrical ones).
This appliance must be used only for the purposes for which it has been expressively designed. Any other use shall be considered incorrect and therefore dangerous.

2 TECHNICAL FEATURES AND DIMENSIONS

2.1 - TECHNICAL FEATURES

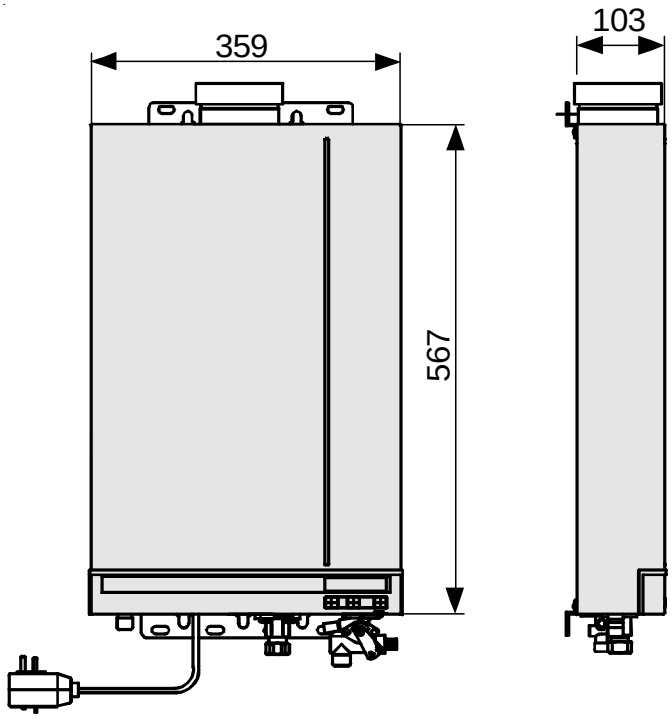
The water heater **IDRONIK TS 13** is an appliance operating on gas, with a two section burner which distinguishes for its extremely reduced depth: only 10 cm.

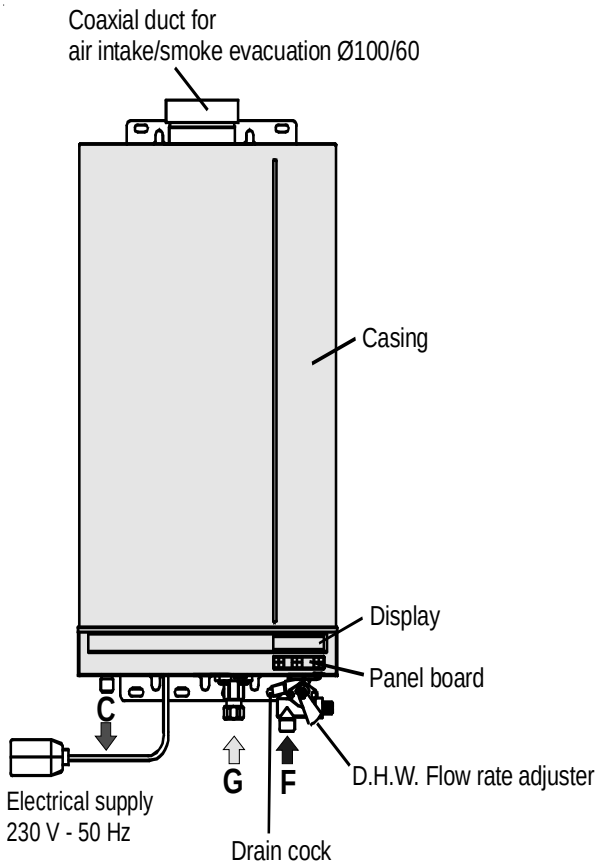
IDRONIK TS has an input of 22,5 kW;

This appliance is of category II_{2H3P}.
The gas water heater **IDRONIK TS** is complete with all the safety and control devices foreseen by the relevant Standards.
Furthermore it complies with:
- Gas Appliances Directive 2009/142/EC
- ElectroMagnetic Compatibility Directive 2004/108/EC
- Low Voltage Directive 2006/95/EC

COMPONENTS DESCRIPTION:
- Two section burner
- Ultraflat wet chamber heat exchanger
- Double opening gas valve;
- Electronic ignition;
- D.H.W. flow rate adjuster;
- Simple touch panel board
- Total safety system MPS
  - Continuous self diagnosis
  - safety lockout
  - protections against:
    - overheating
    - fan failures
    - overloads
    - short circuits and over pressures
    - freezing
- Coaxial air intake/smoke evacuation duct Ø60/100 mm

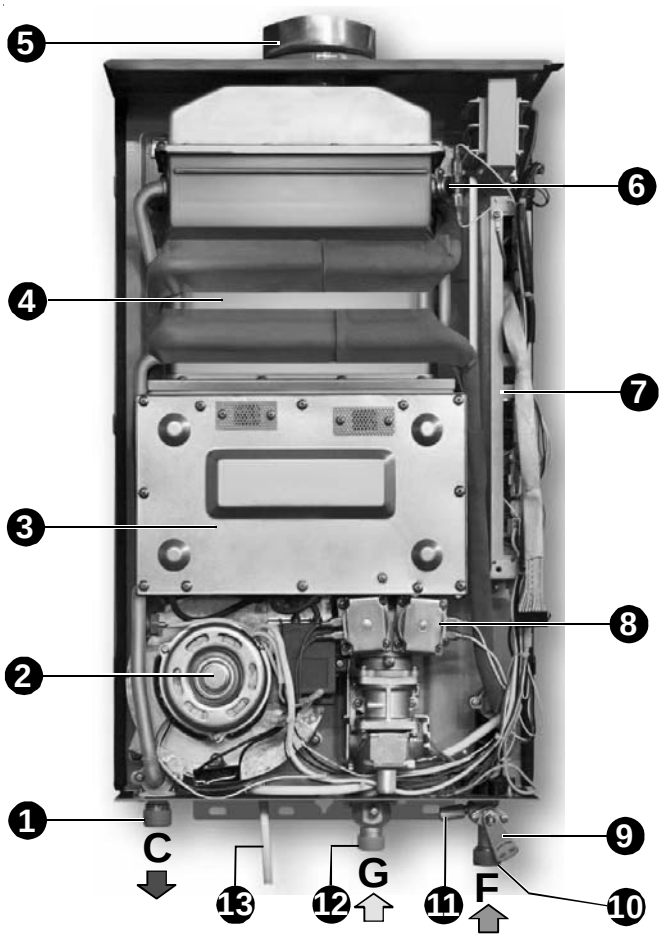
2.2 - DIMENSIONS





Technical features and dimensions

2.3 - MAIN COMPONENTS



1 D.H.W. outlet1/2"
2 Fan
3 Room sealed combustion chamber
4 Heat exchanger
5 Air intake/Smoke outlet
6 Limit thermostat
7 Electrical connection box
8 Gas valve
9 D.H.W. flow rate adjuster
10 D.C.W. inlet 1/2"
11 Water heater drain cock
12 IGas inlet 1/2"
13 Electrical supply cable

2.4 - OPERATIONAL DATA

		IDRONIK TS 13
Nominal Input Qn	kW	22,5
Minimum Input	kW	8,5
Nominal Output Pn	kW	20,5
Minimum Output	kW	7,6
Efficiency at nominal load	%	91
Efficiency at partl load	%	89
Gas type		2H (G20) - 3P (G31)
Category		II2H3P
Nominal gas feeding pressure	mbar	20 (G20) - 37(*) (G31)
Burner nozzle N. Off		10
Burner nozzle Ø	mm	1,30 (G20) - 0,95 (G31)
Smoke evacuation type		C 13

(*) if the gas supply pressure exceeds 37 mbar it is necessary to install a gas pressure regulator

2.5 - GENERAL FEATURES

D.H.W. drawing range	l/min.	da 2,8 a 12,2
D.H.W. production with Δt 25 K	l/min.	12,2
Minimum water pressure	bar	0,5
Maximim water pressure	bar	10
Minimum water temperature	°C	35
Maximum water temperature	°C	60
Electrical supply Tension/Frequency	V-Hz	230/50
Fuse on the electrical supply	A (F)	2
Max. absorbed output	W	48
Protection degree	IP	44
Dry weight	kg	20
Water connection dia.	Ø	1/2"
Gas connection dia.	Ø	1/2"
Coaxial duct	Ø mm	60/100
Ignition method		impulse

3 INSTALLATION ISTRUCTIONS

3.1 - GENERAL WARNINGS

WARNING!
This appliance has to be destined for the use for which it has been expressly designed.
Any other use shall be considered improper and therefore dangerous.
This appliance is designed to heat water at a temperature inferior to boiling point at an atmospheric pressure.

Before installing the appliance the following points have to be carried out by a competent engineer:
a) The whole system should be thoroughly flushed in order to remove any residual dirt or grime which could compromise correct water heater operation.
b) Check that the appliance has been preset for operating with the gas type available. This is verifiable via the indication on the packaging and on the data badge;
c) Check that the chimney/flue pipe has an adequate draught, does not have any constrictions, and that no other appliance's flue outlets have been fitted, unless the chimney is serving more than one heating appliance, according to the specific standards and regulations in force. The connection between the boiler and chimney/flue outlet can be made only after this verification has been carried out.

WARNING!
In rooms where aggressive vapours or dust are present the appliance must operate independently from the air present in theappliance's location room!

WARNING!
The appliance must be installed by a qualified engineer, who complies to the technical professional rules in force and whom, under his own responsibility, guarantees the compliance of the standards according to the latest regulations.

WARNING!
The appliance must be installed only on a vertical flat wall, made of non combustible material.
The appliance must be positioned so that at least the minimum operational and servicing clearances are provided.

WARNING!
This manual has been edited following the prescriptions and definitions adopted by the European Standards.

3.2 - STANDARD CODES FOR INSTALLATION

IDRONIK TS is of the gas category I_{2H}.

The appliance must be installed in compliance to the instructions contained in this manual.

The installation must be carried out by a competent qualified engineer, whom will assume the esponsibility of complying to all the local and/or national regulations published in the official publications, as well as all the applicable codes of practice.

The installation must be carried in accordance to the codes of practice, the national and local regulations and the requirements in force.

The appliance must be installed, commissioned and serviced according to the regulations in force. This is also valid for the hydraulic system, the flue outlet system and the location room.

3.3 - PACKAGING

The **IDRONIC TS** water heater is supplied fully assembled in a strong cardboard box.

After having unpacked the boiler check that it is intact and undamaged.

Keep the packaging material (cardboard box, plastic bags, polyester protection etc**.) out of the reach of children as they can be dangerous.**

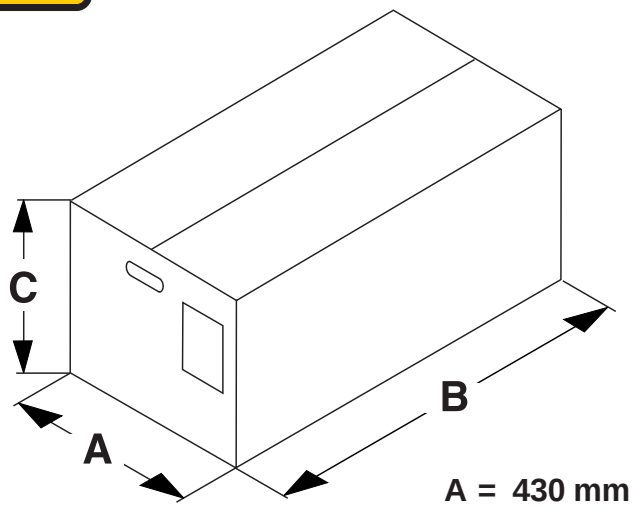
UNICAL refuses all liability for injury to persons, animals or damage to property deriving from not having respected the above mentioned recommendations.

In the packaging, in addition to the water heater, you can also find the following contents:

- This installation and servicing and user's manual
- The Warranty card
- Nr. 2 spare parts request coupons

The coaxial duct Kit, Ø 60/100, for air intake and smoke evacuation, is packaged separate cardboard.

DO NOT DISPERS IN THE ENVIRONMENT



A = 430 mm
B = 755 mm
C = 230 mm

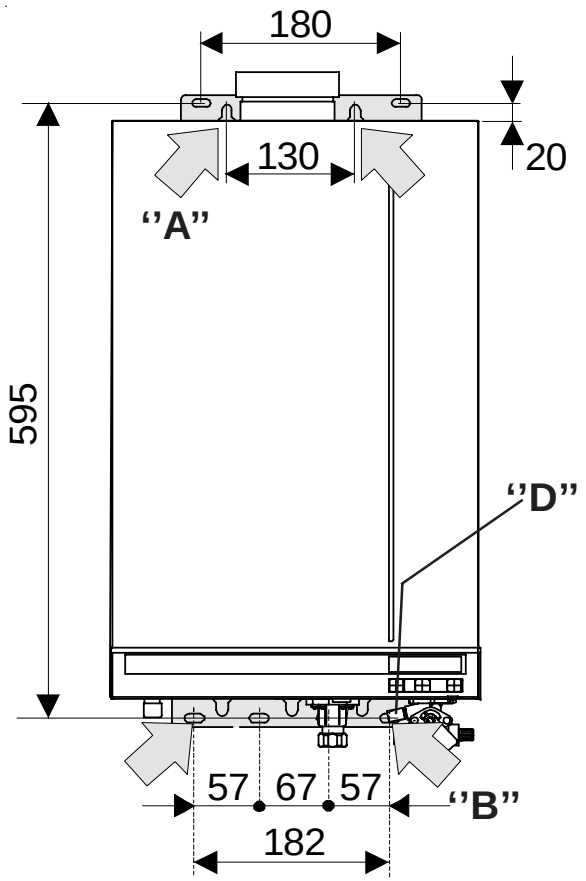
3.4 - WATER HEATER LOCATION

When selecting the position for the installation of the boiler please comply to the following safety requirements:

• Fit the appliance in rooms protected from frost;
• In rooms where aggressive vapours or dust are present, the appliance must be able to operate independently from the air of the location room;
• The appliance must be installed exclusively on a vertical and solid wall, capable of adequately supporting the weight of the water heater;
• The wall must not be made of flammable material;
• Leave on each side of the appliance a clearance of 50 mm, at least 200 mm on the upper side and 400 mm on the lower side in order to allow easy service works.

WARNING
The water heater is for suitable for outdoor installation.

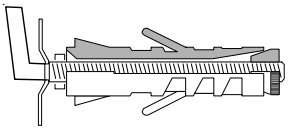
HOW TO FIT THE APPLIANCE TO THE WALL



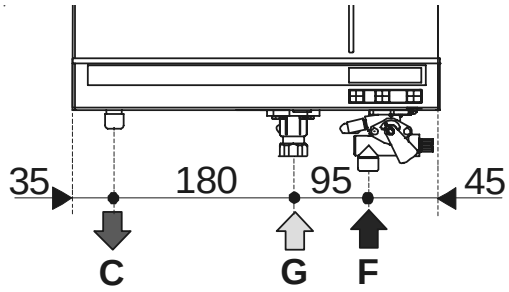
3.5 - WATER HEATER INSTALLATION

Before connecting the water heater the following requirements must be carried out by competent and qualified engineers:
a) The system is flushed out with water in order to eliminate any solid element which could reach the water exchanger and affect the proper running of the water heater;
b) Check that the appliance has been preset for operating with the gas type available.
This is verifiable via the indication on the packaging and on the data badge;
c) Check that the chimney/flue pipe has an adequate draught, does not have any constrictions, and that no other appliance's flue outlets have been fitted, unless the chimney is serving more than one heating appliance, according to the specific standards and regulations in force. The connection between the boiler and chimney/flue outlet can be made only after this verification has been carried out.

For the fitting of the appliance:
- Determine the position of the fixing holes (upper position) of adequate diameter and use the two expanding hooks as shown



- Hung the appliance and fix it using expanding screws **"B"** in the lower part.
- Mark the positions for gas and water connections.



G Gas connection - ½"
C D.H.W. Outlet connection - ½"
F D.C.W. Inlet connection - ½"

D Pressure relief valve drain pipe

In correspondence to the pressure relief valve provision should be made to install a discharge pipe with a funnel and a siphon which lead to an adequate drainage. The drainage has to be controllable by sight.

WARNING!
If this precaution is not taken it could lead to injury to persons, animals or damage to property.
The manufacturer shall not be held liable for any such injury and/or damage.

3.6 - GAS CONNECTION

DANGER!
The gas connection must be carried out only by a qualified engineer who will have to respect and comply to the regulations in force and to the requirements indicated by the local gas supplier. An incorrect installation could cause injury to persons, animals or damage to property. The manufacturer shall not be held liable for any injury and/or damage.

Before installing the boiler it is recommended to thoroughly clean all the fuel feed pipework in order to remove any eventual residual grime which could compromise the boilers correct functioning.

If you smell gas:
a. Do not turn on or off electrical switches, use the telephone or any other object which can provoke sparks;
b. Open all doors and windows in order to allow fresh air to enter and purify the room;
c. Close all gas cocks;
d. Contact a service engineer, qualified installer or the gas supply company.

As a safety measure against gas leaks, Unical recommends installing a surveillance and protective system composed of a gas leakage detector combined with an on-off selenoid valve fitted on the gas supply line.
.

The gas supply pipe must have a section which is identical or greater then the one used on the boiler and must assure a correct gas pressure.
It is however important to comply with the National or Local Installation Standards.
Before commissioning an internal gas distribution system and therefore before connecting it to the gas meter, the complete installation must be tested for gas soundness.
If any part of the system is concealed from view the gas soundness test must be carried out before covering the pipes.
Before connecting the pipework the system must be tested with air or inert gas at a pressure of at least 100mbar.
Before commissioning the boiler ensure that the following operations are carried out:
- Open the gas meter cock and vent the air contained in the piping and subsequently proceed to vent device by device.
- Check, with the gas cock turned off, that there are no gas leaks. During the 2nd quarter of the hour from the start of the test, no pressure reduction should be detected by the pressure gauge. Any gas leaks must be found by using only water soap solutions, or an equivalent product, and eliminated. **Never look for gas leaks using a naked flame**.

3.7 - WATER CONNECTIONS

WARNING!
Before connecting the water heater to the water supply and distribution system we recommend that the system is flushed out with a product suitable for human use in order to eliminate any metallic tooling or brazing residues, oil and grime which could reach the exchanger and affect the proper running of the water heater.
Non-observance of these instructions could cause injury to persons, animals or damage to property. The manufacturer shall not be held liable for any such injury and/or damage.

The hot water distribution pipe and the cold water supply pipe have to be connected to the relevant 1/2" connections **C** and **F** as shown on page 11.
It is suggested to fit a gate valve at the inlet of cold water.

The water supply pressure has to be within 1 and 4 bar. In case of pressure higher than 5 bar we suggest to fit a pressure reducing valve.

WARNING!
The hardness of the feeding water conditions the descaling frequency of D.H.W. heat exchanger.
Depending on the hardness of the feeding water it must be taken into consideration the installation possibility of dosing devices of products for human use for the treatment of the domestic water.
When the water hardness is higher than 15°f the water treatment is always suggested.

Ascertain that the water pipes are not used as earthing of the electrical or thelephon installations. They are not absolutely suitable for this use. In a short time this could cause serious damage to the piping and to the water heater.

3.8 - ROOM VENTILATION

The appliance has to be installed in a convenient room in conformity with the rules inforce, and particularly:

because the **IDRONIK TS** is of **C13 type** in terms of smoke evacuation (the combustion circuit is separate from the air of the room in which the water heater is installed), there are no particular recommendations concerning the ventilation openings for the combustion air.

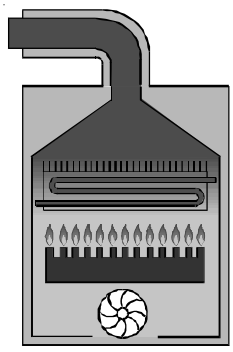
3.9 - SMOKE EVACUATION CONNECTION

We recommend using only original UNICAL flue outlet systems.
Damages caused by installation errors and for non-observance of the instructions given by the same manufacturer will invalidate all the supplier's contractual or extra contractual responsibilities.

When replacing an existing water heater ALWAYS replace also the coaxial duct.

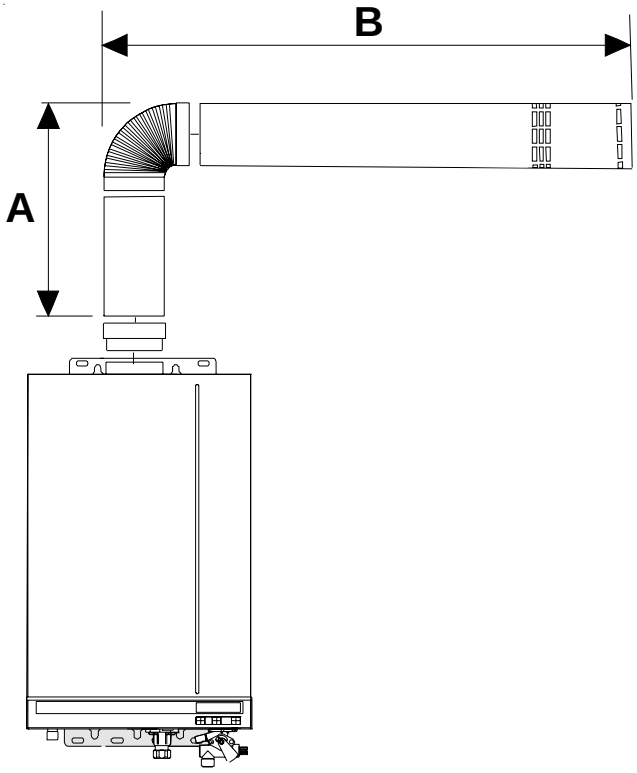
The appliance is CE certified for the smoke evacuation type:

C13 Appliance conceived for connection to coaxial horizontal duct for air intake and smoke evacuation directly from and to the outside.



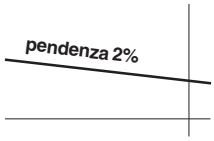
SMOKE EVACUATION WITH COAXIAL DUCT Ø 60/100 mm

Type C13
The minimum allowed length of the coaxial duct is 0.5 m.
The maximum allowed length of the coaxial duct is 3 m; for each added curve the maximum allowed legth will be reduced by 1 m.
The curves N. off will be in any case less than 3.

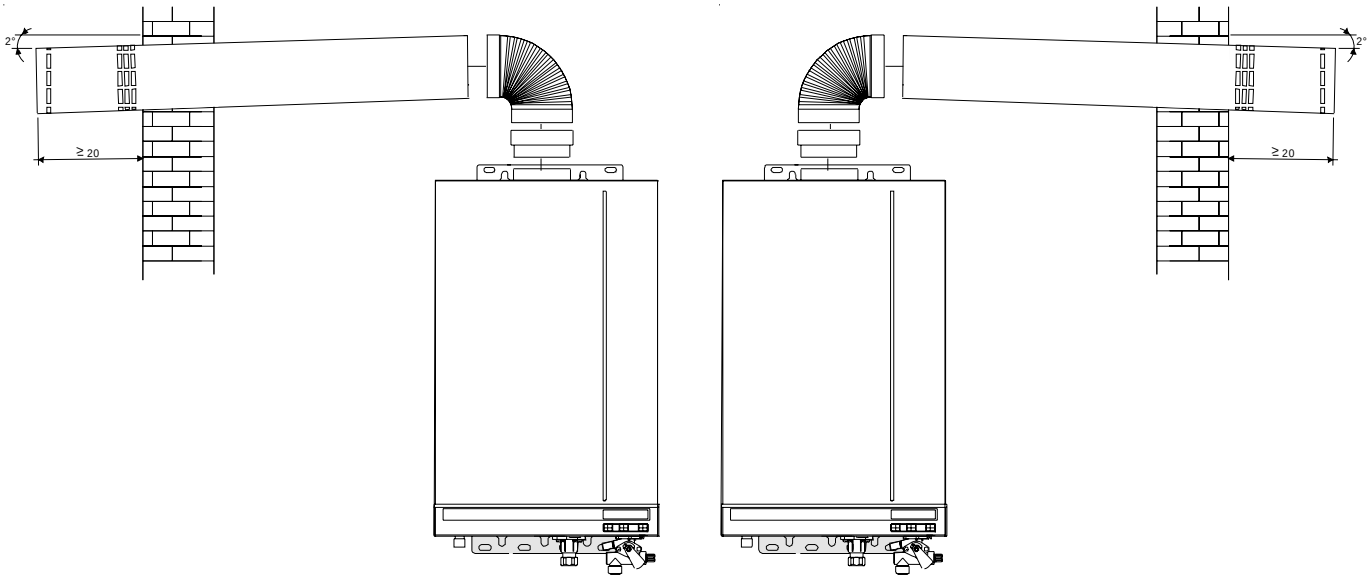


Instruction for the installer

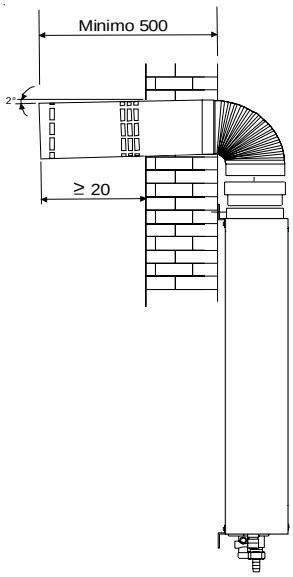
Important:
The coaxial duct must have a sloope toward the outside of 2%, in order to allow to the outside the possible condensate.



Example 1: LATERAL AIR INTAKE/SMOKE EVACUATION



Example 2: REAR AIR INTAKE/SMOKE EVACUATION



00262980	Coaxial kit Ø 60/100, **supplied as standard,** made of: (coaxial curve + coaxial terminal Ø 60/100 + adapter)
00262981	Coaxial extension **(option)** Ø 60/100

3.10 - ELECTRICAL CONNECTIONS

General warnings!

The appliance's electrical safety is guaranteed only when the same appliance has been correctly earthed in compliance with the regulations in force. The gas and water feeding pipes cannot be used as ground plates.
Ensure that the above safety electrical requirements subsist; in case of doubt, ask for a professionally qualified technician to check the appliance's electrical system.
UNICAL refuses responsibility for any damages arising from failure to earth the boiler correctly.
It is necessary that a qualified technician verifies that the electrical system is adequate to the appliance's maximum absorbed power, indicated on the data plate, verifying in particular that the section of the system's cables is suitable to the appliance's maximum absorbed power.
For the appliance's general electrical supply the use of adaptors, multiple sockets and/or extension cords is strictly forbidden.

The use of any power supplied equipment implies the observance of several fundamental rules, such as:
- Do not touch the appliance with any wet part of your body and/or barefooted;
- Do not pull the supply cables;
- Do not expose the boiler to sunlight, rain, etc., unless it is explicitly foreseen;
- Do not permit children or inexpert people to use the appliance.

Connection to mains supply 230V (Installation of a double pole switch)

The boiler is provided complete with a 1,5 m long, mains supply cable, with a cross section area of 3x0,75 mm2.

A mains supply of 230 V – 50 Hz is required. The wiring to the boiler must be in accordance with the current IEC regulations.

DANGER!
The electrical connections must be carried out only by a qualified engineer.
Before carrying out the connections or any other operation on the electrical parts, always switch off and disconnect the electricity supply and ensure yourself that it cannot be accidentally turned on.

Note: It is necessary to fit a double pole switch on the electrical supply line, having a 3 mm contact separation in both poles, in an easy accessible position so as to ensure quick and safe servicing.

The replacement of the supply cable as to be carried out by a qualified authorized UNICAL engineer, using only original spare parts. The non-observance of the above could compromise the appliance's safety.

DANGER!
- Before removing the casing front panel switch off the electrical supply.

3.11 - INITIAL LIGHTING

Preliminary checks

Before the initial lighting of the water heater it is suggested to check:

- the installation is in conformity with the relevant applicable standards;
- the coaxial duct for the air intake and smoke evacuation is properly fitted;
- gas feeding pipe properly sized for the flow rate necessary to the appliance;
- the electrical supply is 230V - 50Hz;
- the feeding gas cock is turned on;
- the soundness of the gas supply;
- the external main switch is turned on; '
- the outlet of the safety valve "D" is connected to the swage.
- there are no water leaks;
- the ventilation conditions and the minimum clearances, for the completion of the service operation, when the appliance is fitted in between the cabinets or in a capboard, are guaranteed.

Informations to be passed on to the user

The user must be instructed on the use and operation of his water heater and in particular:

- - Hand over to the end user this manual, as well as all the other literature relative to the appliance and placed in the envelope contained in the packaging.
  The user must retain this literature for any future reference.

- Remind the user that in order to comply to the regulations in force the water heater has to be inspected and serviced regularly as indicated by the manufacturer.

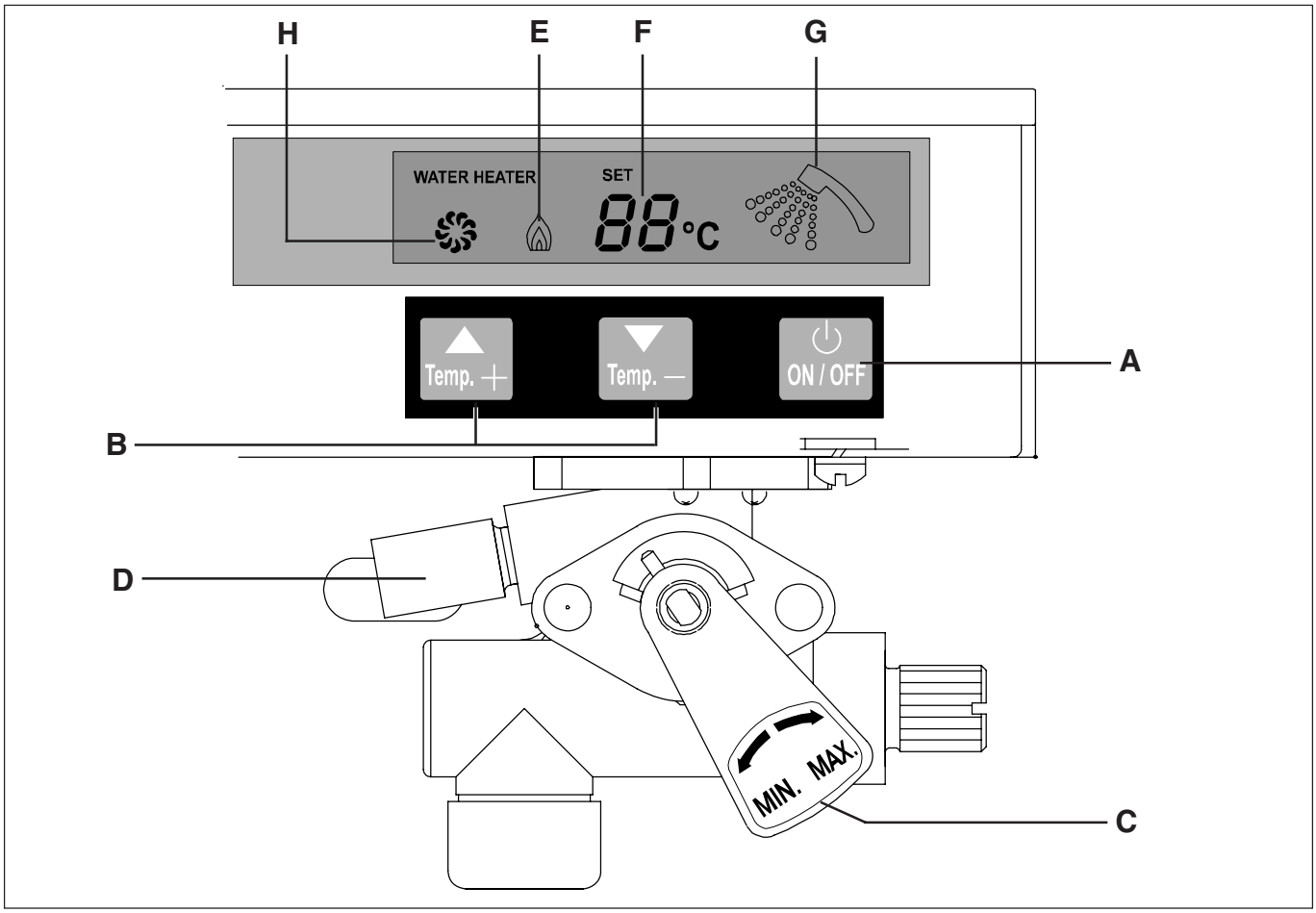
- Explain and demonstrate to the user the correct temperature adjustment for the economic use of the appliance.

- Remember, that in compliance with regulation, control and maintenance must be performed in accordance with the requirements and the frequency specified by the manufacturer and with the frequency required by the directives of the law.

- If the appliance is sold or transferred to another owner or if the present user moves home and leaves the appliance installed, ensure yourself that the manual always follows the appliance so that it can be consulted by the new owner and/or installer.

4 ISTRUCTIONS FOR THE USER

4.1 - PANEL BOARD



A = Ignition button
B = Temperature setting push buttons (+ increases and - reduces)
C = D.H.W. flow rate adjuster
D = Drain valve
E = Burner in operation
F = Temperature value / Error code
G = Hot water available
H = Fan in operation

4.2 - USEFUL SUGGESTIONS AND PUT IN OPERATION

Dare tensione all'apparecchio

Aprire i rubinetti di intercettazioni acqua

Open the gas cock

Push the ignition button **''A'':** on the display it is shown the set up procedure with the **''G''** illuminated.

Push the adjusting temperature button **''B''** to set the desired drawing temperature.

The minimum settable temperature is 35°C; the maximum settable temperature is 60°C, adjustable 1 by 1°C. Normally the outlet temperature of hot water is for a shower of about 40°C.

Adjust the hot water flow rate **''C''** up to the necessary water flow rate is obtained.

Open a hot water tap: on the display it is shown the hot water icone **''G''** , togheter wit the symboles **''E''** and **''H''** (they indicate that the water is getting warm to the temperature shown on the disply).

If the water heater has some problem, on the display you will get the correspondent error code in position **''F''**.

- close the water tap and then re-open it
- switch on and off the appliance through the On and Off switch **''A''**; if the water heater continues in getting problems, close the gas cock and turn off the power supply.
- after some time restart it.

Adjust the water flow rate through the knob **"C"**and the hot water temperature through the button **"B"**, according to your own needs. It is good to get familiar with the appliance commands by repeating several times the ignition procedure after the installation or the first use.

When the water tap is open while the ignition button if off, the water heater doesn't work: only cold water runs through it. If hot water is needed, you have just to push the button **"A"**.

When the water tap is closed, the water heater is switched off, but the fan continues working still for a few seconds.

The outlet water temperature doesn't correspond exactly to the pre-set temperature.

Safety precautions

Gas accidents prevention
Make sure the flame extinguishes after the use.

Check the soundness of the gas connections with a soap solution. If a gas leack should be detected open immediately the windows and don't switch on or use electrical appliances, or connect or disconnect plugs from sockets, because flames or sparks can provoque explosions.

Fire Prevention

In case of lack of ignition or lack of D.H.W. drawing close the gas and water taps.

Don't place onto the water heater towels or clothing.

Don't store flammable substances in the proximity of the water heater.

Prevention from carbon monoxide poisoning

This water heater takes the air for combustion and discharges the combustion products through the coaxial duct, that, for this reason, has to be installed as specified in the paragrapf 3.9. A wrong installation could create dangers up to the death.

A too low or too high water presure can cause an anomalous combustion.
In these cases don't use the water heater up to when the water pressure returns to the normal value.

The dust, in time, could cause the lockout of the water heater and compromise the combustion with increase of the carbon monoxide. It is then necessary to call a qualified technician for cleaning and remove the dust and soot every six months in order to make sure the combustion products are evacuated regularly.

The water heater must be installed vertically.

Freezing prevention

In case of extended periods of operation below zero, it is suggested:

1 - Close the cold water tap.

2 - Turn the water flow rate adjusting knob to its "MAX" position.

3 - Turn the drainage valve "D" and extract it, re-position it when the residual water has been completely drained.

PRECAUTIONS
- If you open the water tap before switching on the water heater, this will not start automatically.
- When taking a shower, in order to avoid being scalded, make sure the water temperature is at an acceptable value.
- After using water at high temperature, in order to avoid the risk of being scalded at the next use, adjust the water temperature at an acceptable value.

Behaviour in anomalous conditions

In case of noisy combustion, smoke at the outlet or poor combustion, close the gas gate valve, switch off the appliance and contact the service center.

Prevention of scald injury (if the casing is removed)
The qualified technician , after removing the casing, must check the flame via the sight glass.
During this operation it is important to take care and stay at a minimum distance of 300mm.

4.3 - ORDINARY MAINTENANCE

Maintenance

- Clean monthly the water inlet filter.
- Always make sure there are no water leaks.
- Ask a professionally qualified technician for an inspection to the burner, the evacuation system and the fan every six months.
- Inspect always the flame inside the water heater for detecting possible anomalous conditions.
- The gas valve is operated by the water pressure; if the water pressure is below 0.5 bar the water heater cannot work.
- **The safety valve drips when the water pressure is too high: it will release somme drops in order to reduce the pressure and protect the water heater.**
- When more water drawings are contemporaneous (2 or 3 taps open at the same time) the flow rate of each tap can be reduced or the temperature can decrease.
- The formation of white plumes, with low outer temperature, is normal (white smoke).
- **When the outlet water temperature is too high:**
  - Reduce the temperature by acting on the knob ''B" (TEMP - MINUS); if this is not enough increase the flow rate by acting on the adjuster "C" (MAX).
- **When the outlet water temperature is too low:**
  - Increase the temperature by acting on the knob ''B" (TEMP - PLUS); if this is not enough reduce the water flow rate by acting on the adjuster "C" (MIN).
  - Once the hot water drawing is finished, the fan will continue operating for some time and the will go off automatically.
  - Select the most convenient type of shower head (multifunc tion) in order to obtain the best results in terms of temperature and quantity of water.

5 INSPECTION AND MAINTENANCE

Inspection and services, correctly made and at regular intervals, as well as the use of original spare part, are very important for a proper, trouble free operation and for the long lasting of the appliance.

If inspections and maintenance are not regularly performed it can result in material and personal injuries, for which the manufacturer cannot be considered responsible.

For this reason we recommend to stipulate a service contract with an authorised Unical Service Center.

The inspection helps in determining the actual state of an appliance and in comparying it with the optimal state. This happens through measurements, controls and observation.

For a better operation of your appliance in the section 4.3 the suggested maintenance operations are suggested.

Instructions for inspection and maintenance

In order to assure for long time the correct operation of your appliance without altering the working conditions of your standard product, only original Unical spare parts have to be used.

Before proceeding with the maintenance operations, follow strictly the following operations:

- Switch off the electrical supply to the appliance.
- Separate the appliance from the mains through a cutting device having, at least, 3 mm distance between the contacts and make sure the electrical supply cannot be switched on by mistake.
- Close the gas gate valve upstream the appliance.
- If necessary, and depending on the intervention to be done, close the cold water inlet tap.
- **Remove the front casin of the appliance.**

Once all the service works have been done, perform always the following operations:

- Open the cold water inlet cock (if previously closed).
- Open the gas gate valve.
- Switch on the electrical supply to the appliance and turn on the external switch.
- Ascertainn the gas and water soundness of the piping.
- Refit the casing front panel.

6 ERROR CODES

The appliance has integral diagnosis system that, in case of bad operation, allows the immediate indication of the fault type on the panel board.
Herewith are listed the known error codes.

Fault thermostat
Actions: Contact the Service Center
Effect: Flame lockout
CODE APPEARING ON THE DISPLAY **E0**

Lack of ignition / lack of gas supply
Actions: Open the gas cock
Effect: Flame lockout
CODE APPEARING ON THE DISPLAY **E1**

Obstructed discharging system / excessive external ventilation
Actions: Contact Service Center
Effect: Flame lockout
CODE APPEARING ON THE DISPLAY **E3**

Faulty fan or its circuit
Actions Contact Service Center
Effect Flame lockout
CODE APPEARING ON THE DISPLAY **E4**

LOCKOUT:
The resetting is done by cutting the power, or by closing and opening the hot water tap.
STOP:
is intended ignition not allowed (SERVICE)

Maximum temperature ptotection
Actions: Control the circulation
Effect: STOP
CODE APPEARING ON THE DISPLAY **E5**

Faulty temperature sensor on the hot water outlet
Actions: Cheks sensor and its connections
Effect: STOP
CODE APPEARING ON THE DISPLAY **E6**

Faulty gas valve
Actions: Check gas valve and its connections
Effect: STOP
CODE APPEARING ON THE DISPLAY **E8**

Table - PROBLEM LIST

Problems / Origin of the problem		Lack of flame	Lack of ignition during the hot water drawing	Dangerous combustion	Burner flame with yellow tips	Anomalous smell	Anomalous sound during ignition	High temperature, too hot water	Low temperature, too cold water	Burner ON also without water drawing	Solution
Gas gate valve is closed			●								Open the gas valve
Gas gate valve partially closed		●		●				●			Open completely the gas valve
Air in the gas piping			●								Several opening the water inlet valve until ignition
Gas pressure out of tolerance	High			●			●		●		Call for Service
	Low	●						●			
Hot water tap not completely open			●								Open it completely
Heat exchanger is frozen			●								Use only after defreezing
Water pressure too low		●	●							●	Call service for pressure restoration
Wrong temperature adjusting								●	●		Adjust the temperature properly
Air is not enough		●				●					Check the chimney draught
Faulty electrical supply			●								Replace ignition batteries
Burner is clogged					●	●	●				Call for service
Exchanger is clogged		●			●	●					Call for service
Faulty D.H.W. temperature sensor		●	●					●	●		Call for service
Ignition electrodes in wrong position			●	●							Call for service

Unical AG S.P.A.
46033 casteldario - mantova - italia - tel. 0376/57001 (r.a.) - fax 0376/660556
www.unical.ag - info@unical-ag.com

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